

FIG. 1A

Title: Tetrahydrofolate Metabolism Enzymes

Applicant: S. C. Falco et al.

Docket No.: BB1179 US CIP

SEQ ID NO:6	soy	290	MEKSALAILMNGLIEETKVSR-----LPIWRPANFVFRKEDVRPIFWANRPKSYISRT	X
SEQ ID NO:11	wheat	160	METKALAILMNGLIEETSKLSRT-----LPIWRPANFVFRKEDVRPIFWANRPKSYISRT	*
SEQ ID NO:12	MTHFR1	289	VDKSAIGLMNGLIDESKTSRS-----LPIWRPANFVFRKEDVRPIFWANRPKSYISRT	*
SEQ ID NO:13	MTHFR2	289	MDKSAIGLMNGLIDESKTSRS-----LPIWRPANFVFRKEDVRPIFWANRPKSYISRT	*
SEQ ID NO:14	corn	289	MDKSAIGLMNGLIEESKSVR-----LPIWRPANFVFRKEDVRPIFWANRPKSYISRT	*
SEQ ID NO:15	human	348	REMATEVILKRLGMWIEDP-RRP-----LWALSAHPKRREEYDVRPIFWASRPSYISRT	*
SEQ ID NO:16	MET13	361	TEKAPMILERLNLNPTESEFNAPHAFLAVLPMRKSLNPKRKEEYDVRPIFWKRPSSYVART	420
SEQ ID NO:6	soy	345	TGW---DOYPHGRWGDSNCNPSSYGLS---DYO---FMRPRARDKKLYEEWAVPLKSTEDIYER	*
SEQ ID NO:11	wheat	215	TGW---DOYPHGRWGDSNPSTGALN-DHQ---FTPRGRGDKKLQOEWWVPLKSYVDINER	*
SEQ ID NO:12	MTHFR1	344	KGW---NDFPHGRWGDSHSAAYSTSLS---DYO---FAPPKGRDKKLQOEWWVPLKSYDQEKF	*
SEQ ID NO:13	MTHFR2	344	KGW---EDFPQGRWGDSRSASTGALS---DHQ---FSSPRARDKKLQOEWWVPLKSYDQEKF	*
SEQ ID NO:14	corn	344	LGW---DOYPHGRWGDSRNPSSYGLT---DHQ---FTPRGRGDKKLQOEWWVPLKSYVEDISER	*
SEQ ID NO:15	human	402	QEW---DEFPGNGWGNSSPAGELK---DYLFLYIKSKSPKEELIKRMGEELTTSASVFEV	*
SEQ ID NO:16	MET13	421	SOWAVDEFPNGRGDSSPAFGDLDLGSQDII---ROSANKCLELWLSTP-TSINDVAL	480
SEQ ID NO:6	soy	399	FRLYCLG-----KLSNPWSELDGLOPETYKINELLEKINTKGFLTINSQPAVNEAKS	*
SEQ ID NO:11	wheat	269	FYNFCEG-----KLKSSPSELDGLOPETYIDDQLVKNSKGFLTINSQPAVNAEKS	*
SEQ ID NO:12	MTHFR1	398	FRELICG-----NUKSSPSELDGLOPETYKINQOLGTTNSNQPAVNAEKS	*
SEQ ID NO:13	MTHFR2	398	FRELICG-----NLKSSPSELDGLOPETYKINQOLGTTNSNQPAVNAEKS	*
SEQ ID NO:14	corn	398	FYNFCOG-----KLTSSPSELDGLOPETYKIDDOLVTTNEOLIKVNSKGFLTINSQPAVNGEKS	*
SEQ ID NO:15	human	458	FVLYLSGEPNRNGHKVTCIPRNDEPLAETSLIKEELVNQGLTINSQPNINGKPS	*
SEQ ID NO:16	MET13	400	VNYLNG-----NUKCLPNSDI-FINDEENPTKAHLLELNQHSLITINSQPYNGTRS	481

FIG. 1C

SEQ ID NO:6	soy	452	DSPTVGMGGPGGTVYQKAYVEFFCSKERLDAIIVDKCKDRT-SLTVMVNKRQDGSMWSKSNVGO	*
SEQ ID NO:11	wheat	322	ESPVGWGGPGGVYYQKAYVEFFCAKEKLQJLIERSKAFAFP-SLYTIAVNKEGESISNIPA	*
SEQ ID NO:12	MTHFR1	451	DSPALGWGGPGGTVYQKAYLEFFCSKORLDTLVEKEKAFAFP-SLTVMVNKESENVSNTGE	*
SEQ ID NO:13	MTHFR2	451	DSPIVGMGGPGGVYYQKAYLEFFCSKRLDAVEKKALP-SLTVMVNKGQWNSNTAQ	*
SEQ ID NO:14	corn	451	DSPIVGMGGPGGVYYQKAYLEFFCAKEKLDOLEIKKAFP-SLTVMVNKEGEFSNISP	*
SEQ ID NO:15	human	517	SDPIVGWGGPGGVFQKAYLEFFTSRTEAQLQVLRKYLRLVNTHLVNVRGENITNAPE	*
SEQ ID NO:16	MET13	452	NDKIHGMGERKGDGTVYQKAYLEMLPKTKLPKIDTKNNEF-LTYFAIDSQGLLSNHPD	*
		541		600

SEQ ID NO:6	soy	511	T-D-VNAVINGVFFAKEILOOPTIVDPVSFNWKRDEAEFIWRSRGA---SLYPEGDAKSRLV	*
SEQ ID NO:11	wheat	381	NA-NAVATMGVFFAKEILOOPTVDSASFMVKRDEAEFIWRSRWA---CLYPEGDDSRRELL	*
SEQ ID NO:12	MTHFR1	510	SD-NAVATMGVFFAKEILOOPTVDSASFMVKRDEAEFIWRSRWA---NLYPEDDPSRRELL	*
SEQ ID NO:13	MTHFR2	510	AD-NAVATMGVFFAKEILOOPTVDPASFNWKRDEAEFIWRSRWA---NLYPEADEPSRNL	*
SEQ ID NO:14	corn	510	NA-NAVATMGVFFAKEILOOPTVDPASFNWKRDEAEFIWRSRWA---NLYPEADEPSRNL	*
SEQ ID NO:15	human	577	LO-NAVATMGVFFAKEILOOPTVDPVSFMVKRDEAEFIWRSRWA---KLYEEESPSRTII	*
SEQ ID NO:16	MET13	511	NSKSNATMGVFFAKEILOOPTVDPVSFMVKRDEAEFIWRSRWA---WKLNMNKYDPKHSAQ-FT	*
		601		660

SEQ ID NO:6	soy	567	EVEGGSYFLVSLVNDYINGD-LFTVFADF-----	595
SEQ ID NO:11	wheat	437	EIQKSYYLVLVSLVNDYITSGD-LFAAFKEI-----	465
SEQ ID NO:12	MTHFR1	566	EVENNSYYLVLVSLVNDYINGD-LFSVFA-----	592
SEQ ID NO:13	MTHFR2	566	EVKORTYVLVLVSLVNDYVQGD-LFAAFK-I-----	594
SEQ ID NO:14	corn	566	EVKORTYVLVLVSLVNDYVQGD-LFAAFK-I-----	593
SEQ ID NO:15	human	633	QYIHDNYFLVNLVLDNDFPLDNCLWQVVEDTLELLNRPTONARETBAP-----	679
SEQ ID NO:16	MET13	569	QSLIDDYCLVNVIVDNDYISPD---DQIHSILSL-----	599

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FIG. 1D